

## AMENDMENT TO THE CLAIMS

### Claims Pending:

- At time of the Action: Claims 1-2, 5-15, and 18-46
- Allowed Claims: Claims 7-12 and 20-25
- Cancelled Claims: Claims 7, 20, and 27-46
- Amended Claims: Claims 1, 8, 9, 10, 13, 14, 21, 22, and 26
- After this Response: Claims 1-2, 5, 6, 7-15, 18, 19, and 21-26

The following listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended) A method for reading information from an optical storage medium, comprising:
  - providing a cache memory having multiple cache segments;
  - receiving a request for information stored on the optical storage medium;
  - determining whether the requested information is stored in one of the cache segments;
  - retrieving the requested information from said one of the cache segments if the information is determined to be stored in the cache memory; and
  - retrieving the requested information from the optical storage medium itself if the information is determined not to be stored in the cache memory,

wherein the cache memory includes a first group of at least one cache segment dedicated to handling a first type of information, and a second group of at least one cache segment dedicated to handling a second type of information, and

wherein the first type of information pertains to information that is designated for retrieval in a streaming transfer mode in which parts of the information are retrieved on an as-needed piecemeal basis as the information is consumed, and the second type of information pertains to information that is designated for retrieval in a bulk transfer mode in which a bulk quantity information is retrieved as a whole, not in multiple parts on an on-needed piecemeal basis[.];

wherein the requested information is retrieved from said one cache segment, the method further comprising:

moving a pointer associated with said one cache segment ahead to define free cache space;

pre-fetching information from the optical storage medium; and

filling the pre-fetched information into the free cache space of said one cache segment.

2. (Original) The method according to claim 1, wherein the retrieved information pertains to a game application.

3.-4. (Cancelled).

5. (Previously presented) The method according to claim 1, wherein the first type of information pertains to audio game information, and the second type of information pertains to game level load information.

6. (Original) The method according to claim 1, wherein the determining of whether the requested information is stored in one of the cache segments includes determining whether the requested information is stored in a cache segment identified in hint information received from a host system.

7. (Cancelled)

8. (Currently amended) The method according to claim 7 1, wherein the pre-fetching is performed at a time in which a drive mechanism is not otherwise engaged performing other tasks.

9. (Currently amended) The method according to claim 7 1, wherein the filling proceeds in circular manner by wrapping around from an end of said one cache segment to a beginning of said one cache segment.

10. (Currently Amended) ~~The method according to claim 1,~~  
A method for reading information from an optical storage medium, comprising:  
providing a cache memory having multiple cache segments;  
receiving a request for information stored on the optical storage medium;

determining whether the requested information is stored in one of the cache segments;

retrieving the requested information from said one of the cache segments if the information is determined to be stored in the cache memory; and

retrieving the requested information from the optical storage medium itself if the information is determined not to be stored in the cache memory,

wherein the cache memory includes a first group of at least one cache segment dedicated to handling a first type of information, and a second group of at least one cache segment dedicated to handling a second type of information, and

wherein the first type of information pertains to information that is designated for retrieval in a streaming transfer mode in which parts of the information are retrieved on an as-needed piecemeal basis as the information is consumed, and the second type of information pertains to information that is designated for retrieval in a bulk transfer mode in which a bulk quantity information is retrieved as a whole, not in multiple parts on an on-needed piecemeal basis;

when the requested information is retrieved from the optical storage medium, the method further comprising:

determining which one of the cache segments should receive the requested information based on an eviction algorithm;

flushing the determined cache segment of its current contents; and

storing the information retrieved from the optical storage medium in the determined cache segment.

11. (Original) The method according to claim 10, wherein the eviction algorithm determines the cache segment to receive the requested information by identifying the cache segment which has been least recently used.

12. (Original) The method according to claim 10, wherein the eviction algorithm determines the cache segment to receive the requested information by identifying the cache segment which has been least frequently used.

13. (Currently Amended) A computer readable storage medium including machine readable instructions for implementing on a computing device, each of the receiving, determining, retrieving information from the cache memory, and retrieving information from the optical storage medium of that when executed, perform the method of claim 1.

14. (Currently amended) An apparatus for reading information from an optical storage medium, comprising:

a cache memory having multiple cache segments;

cache management logic, including:

logic configured to receive a request for information stored on the optical storage medium;

logic configured to determine whether the requested information is stored in one of the cache segments;

logic configured to retrieve the requested information from said one of the cache segments if the information is determined to be stored in the cache memory; and

logic configured to retrieve the requested information from the optical storage medium itself if the information is determined not to be stored in the cache memory,

wherein the first type of information pertains to information that is designated for retrieval in a streaming transfer mode in which parts of the information are retrieved on an as-needed piecemeal basis as the information is consumed, and the second type of information pertains to information that is designated for retrieval in a bulk transfer mode in which a bulk quantity information is retrieved as a whole, not in multiple parts on an on-needed piecemeal basis, and

wherein the first type of information pertains to audio game information, and the second type of information pertains to game level load information[.] ;

wherein the logic for retrieving the requested information from said one cache segment further comprises:

logic configured to move a pointer associated with said one cache segment ahead to define free cache space;

logic configured to pre-fetch information from the optical storage medium; and

logic configured to store the pre-fetched information in the free cache space of said one cache segment.

15. (Original) The apparatus according to claim 14, wherein the retrieved information pertains to a game application.

16.-17. (Cancelled).

18. (Previously presented) The apparatus according to claim 14, wherein the first type of information pertains to audio game information, and the second type of information pertains to game level load information.

19. (Original) The apparatus according to claim 14, wherein the logic for determining is configured to determine whether the requested information is stored in a cache segment identified in hint information received from a host system.

20. (Cancelled).

21. (Currently Amended) The apparatus according to claim ~~20~~ 14, wherein the logic for pre-fetching is configured to operate at a time in which a drive mechanism is not otherwise engaged performing other tasks.

22. (Currently Amended) The apparatus according to claim ~~20~~ 14, wherein the logic for filling is configured to fill said one cache segment in a circular manner by wrapping around from an end of said one cache segment to a beginning of said one cache segment.

23. (Original) The apparatus according to claim 14, wherein the logic for retrieving the requested information from the optical storage medium further comprises:

logic configured to determine which one of the cache segments should receive the requested information based on an eviction algorithm;

logic configured to flush the determined cache segment of its current contents;  
and

logic configured to store the information retrieved from the optical storage medium in the determined cache segment.

24. (Original) The apparatus according to claim 23, wherein the eviction algorithm determines the cache segment to receive the requested information by identifying the cache segment which has been least recently used.

25. (Original) The apparatus according to claim 23, wherein the eviction algorithm determines the cache segment to receive the requested information by identifying the cache segment which has been least frequently used.

26. (Currently Amended) A computer readable storage medium including machine readable information for implementing on a computing device, the cache memory and each of the logic that when executed, perform the cache memory and the logic recited in claim 14.

27. – 46. (Cancelled).